

AMENDMENTS TO THE DRAWINGS

The attached "Replacement Sheet" of drawings includes changes to Figure 1.

The attached "Replacement Sheet," which includes Figures 1 and 2, replaces the original sheet including Figures 1 and 2.

Attachment: Replacement Sheet

REMARKS

Claims 1-29 are now pending in the application. Claims 1-29 stand rejected. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

DRAWINGS

The drawings stand objected to for certain informalities. Applicants have attached revised drawings for the Examiner's approval. The "Replacement Sheet" includes changes to Figure 1. Namely, Figure 1 has been amended to include 'user input device 50'. The user input device 50 is described in detail paragraphs [0018] and [0019] of the application as originally filed. Thus, no new matter has been added.

REJECTIONS UNDER 35 U.S.C. § 103

1. Claims 1-5, 7, 12-16, 20 and 22-24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nix (U.S. Pat. No. 6,529,014) in view of Cotler et al. (U.S. Pat. No. 5,382,911). This rejection is respectfully traversed.

A. Regarding Claims 1-5 and 7, Claim 1 recites, "A system for measuring a thickness of a non-conductive coating on a semi-conductive substrate, said system comprising: a first conducting plate adapted to be placed in contact with a non-conductive coating on a semi-conductive substrate at a first location; a second conducting plate adapted to be placed in contact with the non-conductive coating at a second location; and a capacitance meter electrically connected to the first and second conducting plates, the capacitance meter adapted to measure a capacitance value of the non-conductive coating in combination with the semi-conductive substrate between the first and second conducting plates."

Applicants respectfully submit that neither Nix nor Cotler et al. describe, show or suggest a system for measuring a thickness of a non-conductive coating on a semi-conductive substrate. Moreover, neither Nix nor Cotler et al. describe, show or suggest such a system including a first conducting plate adapted to be placed in contact with a non-conductive coating on a semi-conductive substrate at a first location and a second

conducting plate adapted to be placed in contact with the non-conductive coating at a second location.

Rather, Nix describes a coating thickness measuring device 10 connected to one or more reference plates 11, 11'. The measuring device 10 is equipped with a fixture for one or more measuring probes 14. The probes 14 include two sensors 15, 15' at opposite ends of the probe 14. Thus, the device 10 can be designed in a way that a probe 14 with the sensors 15 can directly be put and locked in the case of the device 10. Both sensors 15,15' of the measuring probe 14 are pressed against the corresponding reference plates 11,11'. Upon placing the measuring probe 14 in the case of the device 10 a signal is transmitted to a control unit (e.g. micro processor). There the zero adjustment or calibration will be started. Therefore, Nix describes a probe 14 including sensors 15,15' that are placed in contact with reference plates 11,11' of measuring device 10 to zero adjust or calibrate the measuring probe 14. Nix does not describe, show or suggest first and second conducting plates adapted to be placed in contact with a non-conductive coating on a semi-conductive substrate at first and second locations of the semi-conductive substrate.

Cotler et al. describes a semiconductor wafer reaction chamber 11 equipped internally with a pair of plates 16 and 17 which are treated also as capacitor electrodes. The separation of movable plate 17 relative to fixed plate 16 is set under the control of stepper motor 18. A capacitance meter 14 is connected across plates 16 and 17 for measuring the capacitance "C" of the separation between plates 16 and 17. Thus, Cotler et al. does not describe, show or suggest first and second conducting plates adapted to be placed in contact with a non-conductive coating on a semi-conductive substrate at first and second locations of the semi-conductive substrate.

Additionally, neither Nix nor Cotler et al. describe, show or suggest a system for measuring a thickness of a non-conductive coating on a semi-conductive substrate including a capacitance meter electrically connected to the first and second conducting plates, wherein the capacitance meter adapted to measure a capacitance value of the

non-conductive coating in combination with the semi-conductive substrate between the first and second conducting plates.

Rather, Nix describes the measuring device 10 and probe 14, as set forth above. Nix additionally describes that for measurement on non-ferrous metals, high frequency electromagnetic fields (normally > 10 MHz) are used. Due to their 'skin effect' they only have a penetrating depth of about 20 µm. Thus, Nix describes using electromagnetic fields to measure thickness. As set forth above, Cotler et al. describes a capacitance meter 14 is connected across plates 16 and 17 for measuring the capacitance "C" of the separation between plates 16 and 17. Thus, neither Nix nor Cotler et al. describe, show or suggest a capacitance meter connected to first and second conducting plates to measure a capacitance value of the non-conductive coating in combination with the semi-conductive substrate between the first and second conducting plates.

Furthermore, Applicants respectfully submit that there is no motivation to combine the teaching of Nix and Cotler et al. Nix describes using electromagnetic fields to measure thickness and Cotler et al. describes using capacitance to measure a gap between two plates. One of ordinary skill in the art would not be motivated to combine the electromagnetic teachings of Nix with the capacitance teachings of Cotler et al.

Therefore, for at least the reasons set forth above Applicants submit that Claim 1 is patentable over Nix in view of Cotler et al.

Claims 2-5 and 7 depend from Claim 1. When the recitations of Claims 2-5 and 7 are considered in combination with the recitations of Claim 1, Applicants submit that Claims 2-5 and 7 are likewise patentable over Nix in view of Cotler et al.

B. Regarding Claims 12-16, Claim 12 includes the limitations similar to the limitations recited in Claim 1. Thus, in accordance with the remarks set forth above with regard to Claim 1, Applicants respectfully submit that Claim 12 is patentable over Nix in view of Cotler et al. Claims 13-16 depend from Claim 12. When the recitations of

Claims 13-16 are considered in combination with the recitations of Claim 12 Applicants submit that Claims 13-16 are likewise patentable over Nix in view of Cotler et al.

C. Regarding Claims 20 and 22-24, Claim 20 includes the limitations similar to the limitations recited in Claim 1. Thus, in accordance with the remarks set forth above with regard to Claim 1, Applicants respectfully submit that Claim 20 is patentable over Nix in view of Cotler et al. Claims 22-24 depend from Claim 20. When the recitations of Claims 22-24 are considered in combination with the recitations of Claim 20, Applicants submits that Claims 22-24 are likewise patentable over Nix in view of Cotler et al.

For at least the reasons set forth above, Applicants respectfully request that the §103 rejections of Claims 1-5 and 7 be withdrawn.

2. Claims 6, 17 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nix (U.S. Pat. No. 6,529,014) in view of Cotler et al. (U.S. Pat. No. 5,382,911) and Murray (U.S. Pat. No. 5,746,905). This rejection is respectfully traversed.

A. Claim 6 depends from Claim 1, which, for at least the reasons set forth above, Applicants submit is patentable over Nix in view of Cotler et al. and further in view of Murray. Thus, when the recitations of Claim 6 are considered in combination with the recitations of Claim 1, Applicants submit that Claim 6 is likewise patentable over Nix in view of Cotler et al. and Murray.

B. Claim 17 depends from Claim 12, which, for at least the reasons set forth above, Applicants submit is patentable over Nix in view of Cotler et al. and further in view of Murray. Thus, when the recitations of Claim 17 are considered in combination with the recitations of Claim 12, Applicants submit that Claim 17 is likewise patentable over Nix in view of Cotler et al. and Murray.

C. Claim 25 depends from Claim 20, which, for at least the reasons set forth above, Applicants submit is patentable over Nix in view of Cotler et al. and further in view of Murray. Thus, when the recitations of Claim 25 are considered in combination

with the recitations of Claim 20, Applicants submit that Claim 25 is likewise patentable over Nix in view of Cotler et al. and Murray.

For at least the reasons set forth above, Applicants respectfully request that the §103 rejections of Claims 6, 17 and 25 be withdrawn.

3. Claims 8-11, 18, 19, 21 and 26-29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nix (U.S. Pat. No. 6,529,014) in view of Cotler et al. (U.S. Pat. No. 5, 382,911) and Szasz (U.S. Pat. No. 3,801,900). This rejection is respectfully traversed.

A. Claims 8-11 depend from Claim 1, which, for at least the reasons set forth above, Applicants submit is patentable over Nix in view of Cotler et al. and further in view of Szasz. Thus, when the recitations of Claims 8-11 are considered in combination with the recitations of Claim 1 Applicants submits that Claims 8-11 are likewise patentable over Nix in view of Cotler et al. and Szasz.

B. Claims 18 and 19 depend from Claim 12, which, for at least the reasons set forth above, Applicants submit is patentable over Nix in view of Cotler et al. and further in view of Szasz. Thus, when the recitations of Claims 18 and 19 are considered in combination with the recitations of Claim 12, Applicants submit that Claims 18 and 19 are likewise patentable over Nix in view of Cotler et al. and Szasz.

C. Claims 26-29 depend from Claim 20, which, for at least the reasons set forth above, Applicants submit is patentable over Nix in view of Cotler et al. and further in view of Szasz. Thus, when the recitations of Claims 26-29 are considered in combination with the recitations of Claim 20, Applicants submit that Claims 26-29 are likewise patentable over Nix in view of Cotler et al. and Szasz.

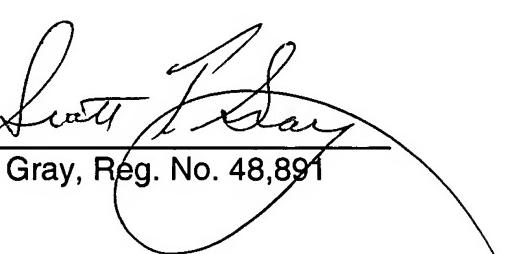
For at least the reasons set forth above, Applicants respectfully request that the §103 rejections of Claims 8-11, 18, 19, 21 and 26-29 be withdrawn.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (314) 726-7525.

Respectfully submitted,

Dated: 5/2/05

By: 
Scott T. Gray, Reg. No. 48,891

HARNESS, DICKEY & PIERCE, P.L.C.
7700 Bohomme, Suite 400
St. Louis, MO 63105
314-726-7500